98-B15

Northwest Marine Technology, Inc.
Pioneering solutions for the problems of aquatic resource management

Mr. Carl Werder
Bureau of Reclamation
2800 Cottage Way, Room E-2710
Sacramento, CA 95825

July 20 1999

Re: Evaluation of Increased Tagging Levels for Chinook Salmon and Steelhead and a Demonstration Project on Mass Marking

Dear Carl:

I have three issues for your consideration.

1) Northwest Marine Technology requests that the due dates for Tasks 1a and 1b under our contract be extended until September 1, 1999. Our subcontractor, Bailey Environmental, has not finished the reports but expects to do so by about the middle of August. Randy Bailey informs me that the report for Task 1a has been delayed by problems associated with fixing errors found in the Pacific States Marine Fisheries Commission's coded wire tag database; extensive analyses required, but not anticipated, to determine if oceanic distribution of tag groups released at the same location have the same distribution (if they do, then approximately one third of the original database could not be used for analyses); and finally, a change in the techniques used to calculate the constant marking portion of the contract. The change in statistical techniques required a change in data. Therefore, Bailey Environmental is behind schedule on completing the report. However, some segments of the report are already written, a complete and comprehensive outline is completed, and 90% of the required analyses are completed. Mr. Bailey assures me that the report will be completed by mid August.

   As for Task 1b, coordination activities and problems associated with developing and selecting suitable models have taken more time and computer simulation than anticipated. We have been actively coordinating with CVPIA's CAMP program to develop a constant fractional marking program, including close interaction with their two statistical consultants. However, we have decided to complete two models for constant fractional marking, one that does not provide for a selective salmon fishery (CAMP's objective) and one that does provide for a selective salmon fishery (a scenario we believe is more realistic, given the status of salmon stocks along the Coast). As a result of developing two models, it has taken more time. Dr. Ken Newman, our statistical consultant from the University of Idaho, estimates that a draft report of the modeling will be completed in early August. The first model is completed and some fine tuning is currently occurring with real world data. The second model is very similar to the first, but requires some reprogramming to accommodate the selective fishery.

   Task 1c of the contract is on schedule and will be completed by the current due date.

2) Northwest Marine Technology requests a cost modification for Task 1. Bailey Environmental encountered considerable unexpected errors with the coded wire tag data which are administered by various agencies. To ensure the integrity of the information and analyses reported in Task 1, Bailey Environmental invested extra time (beyond that budgeted) to rectify the problems. The project has met several other unanticipated hurdles, as explained above, but these issues only resulted in time delays and did not result in fiscal concerns. We request an additional 100 hours at $95.00/hr to compensate for the corrections to the data base. This totals $9,500.

3) Northwest Marine Technology suggests that you consider additional funding for modeling. Task 1 models various marking/tagging/fishing scenarios. These models are based on a discreet set of parameters that depict a

P.O. Box 427 Ben Nevis Road Shaw Island Washington 98286 U.S.A.
Phone (360) 468-3375 FAX (360) 468-3844 Tax I.D. No. 22-1935793
E-Mail: office@nmt-inc.com NMT Homepage: http://www.nmt-inc.com

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few typical and hypothetical situations. These are adequate for the obligations of contract's reports on the basics of hatchery catch rates, constant fractional marking, and the impacts of selective fishing.

However, Dr. Newman is not expected to evaluate an extensive array of parameters, as might be necessary to satisfy the curiosities of the multitude of stakeholders (fishing groups, water resources agencies, fish and game agencies, etc.).

To evaluate a wide spectrum of values for the model's parameters (fishing mortality rates, salmon ocean survival rates, hooking mortality rates, impacts in freshwater, etc.) will necessitate an additional commitment from Dr. Newman. Further, stakeholders may want to see a greater level of sophistication incorporated into the model's structure. I anticipate that such interest in modeling could require an additional $25,000 - $40,000 for the University of Idaho subcontract. We can prepare now for this inevitable result, or wait until the reports are finished and consider an amendment at that time. If you see value in this issue, please give me call and we can discuss in further detail.

Thank you for your consideration.

Sincerely,

Guy Thornburgh
CEO, NMT

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